DOCUMENT RESUME

ED 164 435 SP 011 354

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TITLE A Competency-Based Elementary Teacher Preparation Program Model.
PUB DATE 76
NOTE 6p.; Not available in hard copy due to marginal legibility of original document

EDRS PRICE MF-$0.83 Plus Postage. HC Not Available from EDRS.
DESCRIPTORS *Models; *Perception; *Performance Based Teacher Education; *Pilot Projects; *Teacher Education; *Teaching Skills

ABSTRACT

A list of 86 instructional competencies in the categories of instruction, school and classroom management and environment, and student guidance services were identified by teachers and principals. The validation of these competencies was accomplished through comparison and consensus. An instructional alternative system was designed by using a matrix system in comparing the 86 competencies with various types of instructional resources. Such an arrangement clarifies the relationship of competency to resource and reveals the balance or imbalance in instructional efforts for various competencies. The assessment activities were focused upon four aspects of the pilot program of instructional competencies: the instructional competencies per se; the pilot program model; the student self-perception; the teacher perception of student competency. The conclusions drawn from the data indicated that there were significant increases in the students' self-perception of knowledge, experience, and confidence as they progressed from the early to later stages of professional preparation. (Author/JMF)

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ED164435

A COMPETENCY-BASED ELEMENTARY TEACHER PREPARATION PROGRAM MODEL

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February 1, 1975 - January 31, 1976

Introduction

The University of Michigan 1975 Project entitled "A Competency-Based Elementary Teacher Preparation Program Model" had as its major objectives the development of three closely related systems:

1. a classified system of instructional competencies
2. a system of instructional alternatives
3. an assessment system

For all three, a sound foundation was established with the major emphasis upon the assessment phase. The cooperating school systems, Ann Arbor, Inkster, and Van Buren, were deeply involved in the first and third phases, working with the University staff in the evolution of the various competency listings, and the development of instruments and procedures by which the competencies might be assessed. (See Figure 1.)

Development of Instructional Competencies and Classification System

Teachers and principals from the cooperating school systems met in their local district team, and together in three general sessions and eventually produced three separate lists of competencies: 174 competencies in nine groups; 213 competencies in eight groups; and 114 competencies in six groups. The combined listing was edited to delete exact duplicates and to unify style of expression, reducing the total from 501 to 239. This process also revealed a wide variance in the level of generality, and many statements which included more than one competency. A reclassification procedure was then employed to:

1. eliminate the remaining duplication of having a competency stated as both knowledge and behavior/performance;
2. classify more accurately by the meaning of the original statements rather than literally, by the words used;
3. clarify what can and cannot be stated as an instructional competency;
4. facilitate instruction for the achievement of competencies;
5. facilitate preparation of instruments for the assessment of instructional competencies.

SP011354

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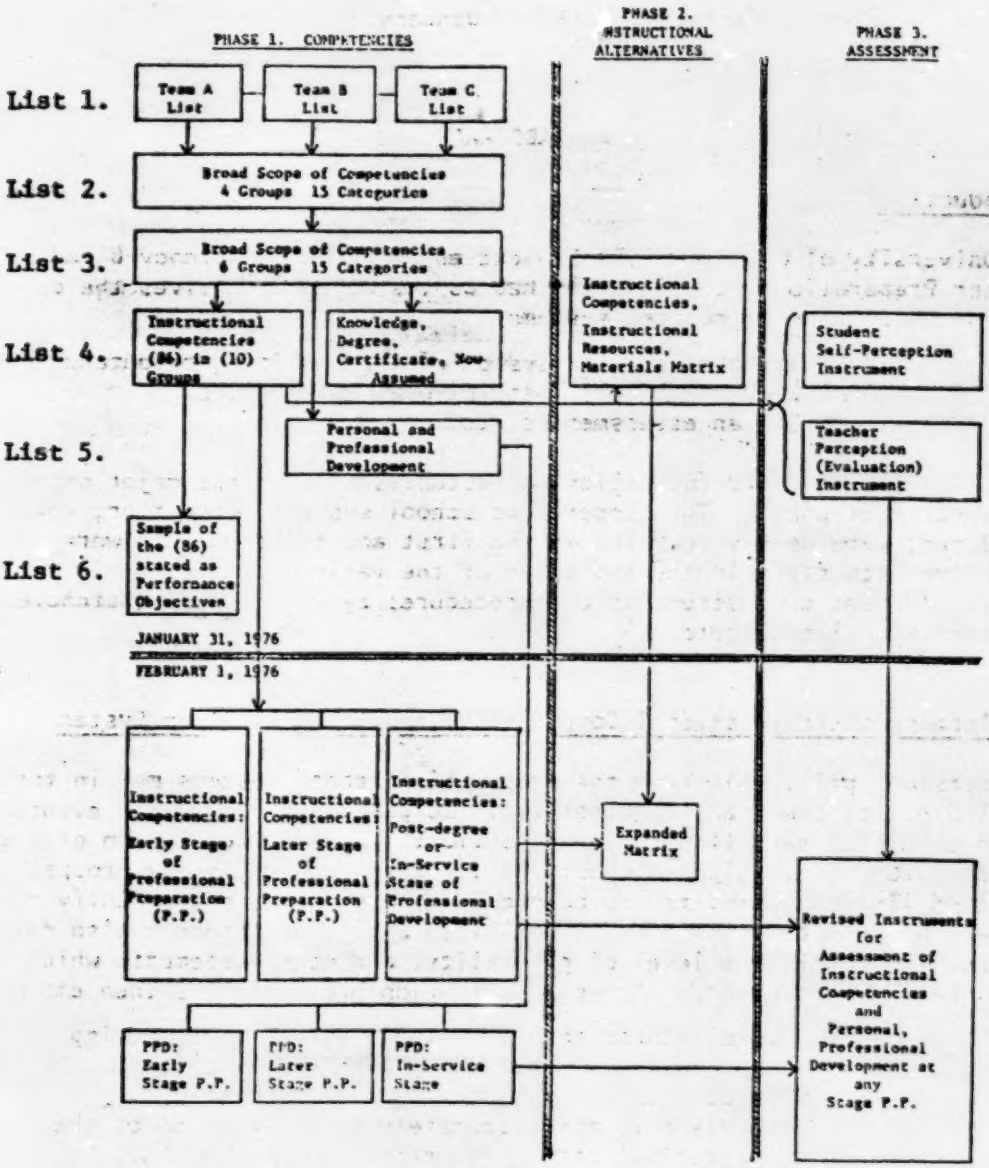
PHASE 1. COMPETENCIES
PHASE 2. INSTRUCTIONAL ALTERNATIVES
PHASE 3. ASSESSMENT
List 1.
Team A List
Team B List
Team C List
List 2.
Broad Scope of Competencies 4 Groups 15 Categories
List 3.
Broad Scope of Competencies 6 Groups 15 Categories
List 4.
Instructional Competencies (86) in (10) Groups
Knowledge, Degree, Certificate, Now Assumed
Instructional Competencies, Instructional Resources, Materials Matrix
Student Self-Perception Instrument
Teacher Perception (Evaluation) Instrument
List 5.
Personal and Professional Development
List 6.
Sample of the (86) stated as Performance Objectives
JANUARY 31, 1976
FEBRUARY 1, 1976
Instructional Competencies: Early Stage of Professional Preparation (P.P.)
Instructional Competencies: Later Stage of Professional Preparation (P.P.)
Instructional Competencies: Post-degree or In-Service Stage of Professional Development
Expanded Matrix
Revised Instruments for Assessment of Instructional Competencies and Personal, Professional Development at any Stage P.P.
PPD: Early Stage P.P.
PPD: Later Stage P.P.
PPD: In-Service Stage

Figure 1. PROJECT OVERVIEW: Product Evolution

Selecting from this reclassified list those items which relate directly to instructional competency, rewording them in comparable and fairly generic terms, combining those which overlapped and splitting those which included several different topics, and adding a few which filled obvious gaps (i.e., activities and content) resulted in a list of 86 instructional competencies in the following categories.

CLASSIFICATION CATEGORIES	NUMBER OF COMPETENCIES
Instruction	
Planning	4
Goals and Objectives	7
Evaluation - Diagnosis	4
Evaluation - Assessment	10
Evaluation - Utilization of Diagnosis/Assessment Information	4
Materials and Equipment - Materials	5
Equipment	4
Activities and Content	5
Methods and Strategies	22
School and Classroom Management and Environment	10
Student Organization, Guidance, Services	
Organization	2
Guidance and Services	9
TOTAL	86

A final consideration of the instructional competencies consisted of selecting one or two in each category and stating them in more specific terminology to facilitate objective evaluation, in terms of evidence. It is to be noted, however, that the evaluation by the more generic competencies, though based upon observation, was not entirely subjective, since it recognized evidence of three types: product ("planning" competency); teacher behavior ("method" competency); and pupil behavior ("encourage goal-related behavior" competency).

There were two basic methods of validation utilized, comparison and consensus. The U-M listing was compared with listings from the Gull Lake Conference (MSU, 1975), the COAST Project (WSU-Ferris, 1974), the U-M Elementary Science Project (1974), and the PBTE Florida Catalogue of Competencies. Significant support for both the competencies and the classification system was revealed by these comparisons.

Consensus was obtained from the teachers and principals who, as consultants, gave us continual feedback during the project year, and from all teachers supervising pre-student teachers and student teachers through the end-of-term evaluation. Their rating of the importance of the 86 instructional competencies was voluntary and anonymous. More than 100 teachers responded, giving the highest ratings to the three categories, Planning, Methods and Strategies, and School and Classroom Management and Environment. On a five-point scale, means for the importance of the 86 instructional competencies ranged from 2.90 to 4.91, with following frequencies: 3 were rated 4-5; 30 were rated 3-5; 17

were rated 2-5; and 36 received the full range of 1-5.

Instructional Alternatives System

As resources were sought and reviewed for a new instructional alternatives system through which the competencies could be attained, the variety and infinite number of such resources as well as the number of very specific competencies which could be stated led to an early decision that priority would be given to the relationship between competencies and assessment of the competencies, rather than to the relationship between competencies and the instructional materials related to them.

A matrix system was designed, however, with the 86 competencies as one dimension and various types of instructional resources as the other dimension. By entering even a sampling of the resources currently used at U-M, the potential of such a system became evident. Such an arrangement clarifies the relationship of competency to resource, reveals the balance or imbalance in instructional efforts for various competencies, or in the types of resources available for particular competencies. The matrix approach is not limited to any instructional approach or type of organization.

Assessment

Assessment activities were focused upon four aspects of the pilot program of instructional competencies: the instructional competencies per se; the pilot program model; the student self-perception; the teacher perception of student competency. Validation of competencies was reported earlier. Assessment of the pilot program model derived from three sources: the positive teacher evaluation of their involvement in the project; the anonymous importance ratings which reflected the willingness of teachers to take an active role in helping to shape teacher education programs of the future; the potential of the model to produce evidence as to whether teacher education was achieving its goals - whether students were actually achieving the instructional competencies.

There were two dimensions, student and teacher, to the multiphasic approach which served formative and summative purposes in the assessment design. The student self-perception included measuring his/her own knowledge, experience, and confidence relative to each of the 86 instructional competency items, using a five-point scale. The teacher perception (evaluation) of the student's competency measured the degree of mastery and the opportunity which existed for the student to demonstrate each of the 86 competencies, also using a five-point scale. In addition, many teachers voluntarily responded with the importance rating they assigned to each of the competencies.

The formative aspect of the evaluation consists of the testing of the experimental and statistical design for studying the relationships involved in the various aspects of student and teacher perceptions. The summative aspect of the evaluation consisted of testing whether the student perception of competency increased, whether student achievement of competency increased, and whether the teacher education program was achieving its program goals.

For comparative analysis of student perception, the statistical technique used was profile analysis, chosen because it is a multivariate technique to examine differences among variables with strong relation. (In this case, knowledge, experience, and confidence.) The profile analysis tested three hypotheses: parallelism (H-1); equal means (H-2); and equal groups (H-3). All hypotheses were tested at $p < .01$ level of significance.

H-1: If the profiles of knowledge, experience and confidence were parallel for the various student groups, one can assume that comparable change had occurred in the three variables as they progressed from one academic term or stage of professional development to the next.

H-2: If the variable means were equal, students view their knowledge, experience and confidence as equal.

H-3: If the means for the different student groups were equal, one can state there is no difference between juniors and seniors, for example, or between pre-student and student teachers, in their self-perceptions for the three variables.

October Findings - Student Self-Perceptions

Two substantive conclusions can be drawn from October data. There were significant increases in all three variables - the student's self-perception of knowledge, experience, and confidence - as they progressed from the early to later stages of professional preparation. Their gain in perception of experience exceeded the gains in perception of knowledge and confidence. The recorded means for all three variables ranged on a continuum from 1.71 for the early stage student group to 3.96 for the later stage student group on a scale of 1 to 5.

October -December Comparisons - Student Self-Perceptions

Comparisons were made between the October and December, 1975, data for each of the 92 students who participated in both of these self-rating sessions. Significant differences occurred for all 85* competencies, in the students' self-perception of knowledge and for confidence with the December rating higher in all cases. For 72 of the 85 competencies there was a significant difference in student self-perception of experience, with some increase recorded in every case.

December Findings - Teacher Perceptions (Evaluations)

Teachers rated students on the 85 instructional competencies for two variables; degree-of-mastery-demonstrated; and opportunity to demonstrate the competency. For almost every competency, the full range of 1 through 5 was recorded.

For the degree-of-mastery-demonstrated variable, 8 means were less than 2.0, and 9 means were greater than 4.0. For the opportunity variable, 12 were less than 2.0, and 27 were greater than 4.0. It was interesting to note that the 8 means recorded as less than 2.0 for the degree-of-mastery-demonstrated variable,

* One of the 86 competencies was omitted from the booklet inadvertently in October.

were also recorded as less than 2.0 for the opportunity variable. Similarly, of the 9 means recorded as greater than 4.0 on the degree-of-mastery-demonstrated variable, all 9 also had means greater than 4.0 on the opportunity variable. High means for degree-of-mastery-demonstrated are encouraging, but lower means raise several questions. Was the competency an unreal expectation for students at beginning stages of professional preparation? Was there no opportunity to demonstrate it? Or was it realistic and there was opportunity, but the student simply did not master it? Future analyses will attempt to answer these questions.